Clean Version of Claims, As Amended

1. (Currently amended) A method of processing historical data relating to past performance of markets and financial tools in order to obtain a synthetic index constituted by a series of performances representative of various economical and financial scenarios, the method comprising:

- acquiring historical data relating to a number (m) of historical series of performances (A1, A2, ..., Am);
- setting up a given number (n) of performances (Ax1, Ax2, ..., Axn) to be produced, wherein the given number (n) of performances constitutes the synthetic index (PROXYNTETICA);
- setting up a first number of probability levels to utilize for defining at least one control system and a second number of probability levels to utilize for defining at least one statistical scenario;
- setting up a given number (s) of time intervals (T1, T2, ..., Ts) including a time interval (T*) equal to the given number (n) of performances, in which particular mathematical constraints are verified between curves generated by the at least one control system, wherein the curves are originated by the given number (n) of performances (Ax1, Ax2, ..., Axn) of the synthetic index (PROXYNTETICA) and by the at least one statistical scenario obtained from the number (m) of historical series of performances (A1, A2, ..., Am);
- calculating a plurality of statistical scenarios (Scenario (Pi, Tj)) constructed in accordance with said second number of probability levels and the given number (s) of time intervals, wherein in a first statistical scenario (Pi) $i \in [1...p]$ and in a second statistical scenario (Tj) $\in [1...s]$;
- setting up a growing series of correlation values;
- selecting a non-linear programming algorithm for identifying global optima;
- configuring said non-linear programming algorithm so that it:

a) assumes the given number (n) of performances (Ax1, Ax2, ..., Axn) to be the synthetic index (PROXYNTETICA), and

b) performs at least one of minimizing and maximizing an objective function (FO), wherein the objective function is obtained as a standard logarithmic deviation from the given number (n) of performances (Ax1, Ax2, ..., Axn);

- establishing constraints for the non-linear programming algorithm, so that said non-linear programming algorithm calculates the given number (n) of performances (Ax1, Ax2, ..., Axn) to arrive at at least one of a minimum synthetic index (PROXYNTETICA min) and a maximum synthetic index (PROXYNTETICA max); and
- processing the non-linear programming algorithm so that it provides at least one of the maximum synthetic index (PROXYNTETICA max) and the minimum synthetic index (PROXYNTETICA min).

2. (Currently amended) The method according to claim 1, wherein said first number of probability levels comprises three probability levels, the first probability level comprising an average probability level equal to 50%, the second probability level comprising a minimum probability level (Pmin) of less than 50%, and the third probability level comprising a maximum probability level (Pmax) of greater than 50%.

3. (Currently amended) The method according to claim 1, wherein said second number of probability levels comprises three probability levels, the first probability level comprising an average probability level equal to 50%, the second probability level comprising a lower probability level (Pinf) of less than 50%, and the third probability level comprising a higher probability level (Psup) of greater than 50%.

4. (Currently amended) The method according to claim 3, wherein said number of statistical scenarios (Scenario (Pi, Tj)) comprises three statistical scenarios constructed in accordance with said three probability levels (Pinf, Psup and 50%).

5. (Currently amended) The method according to claim 1, wherein said constraints set up for the non-linear programming algorithm to arrive at the minimum synthetic index (PROXYNTETICA min) comprise:

a) a standard deviation of the given number (n) of performances (Ax1, Ax2, ..., Axn) that is greater than or equal to the average of standard deviations calculated on a rolling calculation of the historical series of performances (A1 A2, ..., Am), wherein the rolling calculation is equal in number to the given number (n) of performances;

b) the value of the control system that is constructed on the given number (n) of performances (Ax1, Ax2, ..., Axn) is defined utilizing a probability level equal to 50% and coincides with the value of a statistical scenario that is calculated on the number (m) of historical series of performances (A1 A2, ..., Am) at a probability level equal to 50% (Pmed), wherein both the control system and the statistical scenario relate to a time interval equal to the total given number (n) of performances;

c) the values of the control systems defined for the given number (n) of performances (Ax1, Ax2, ..., Axn) having a given number (s) of time intervals and probability levels comprising a maximum probability level (Pmax) of greater than 50% have values that are lower than or coincident with corresponding values of the statistical scenarios calculated on the number (m) of historical series of performances (A1 A2, ..., Am) that have probability levels comprising a higher probability level (Psup) of greater than 50%;

d) the values of the control systems that are defined for the given number (n) of performances (Ax1, Ax2, ..., Axn) having a given number (s) of time intervals and probability levels comprising a minimum probability level (Pmin) of less than 50% have values that are higher than or coincident with corresponding values of the statistical scenarios calculated on the number (m) of historical series of performances (A1 A2, ..., Am) that have probability levels comprising a lower probability level (Pinf) of less than 50%; and

e) the correlation between: (i) the given number (n) of performances (Ax1, Ax2, ..., Axn); and (ii) the last portion of performances of the number (m) of historical series of performances (A1 A2, ..., Am) equal in number to the given number (n) of performances; is equal to the highest possible value.

6. (Currently amended) The method according to claim 1, wherein said constraints set up for the non-linear programming algorithm to arrive at the maximum synthetic index (PROXYNTETICA max) comprise:

a) the value of the control system that is constructed on the given number (n) of performances (Ax1, Ax2, ..., Axn) is defined utilizing a probability level equal to 50% and coincides with the value of a statistical scenario that is calculated on the number (m) of performances (A1 A2, ..., Am) at a probability level equal to 50% (Pmed), wherein both the control system and the statistical scenario relate to the time interval (T*) equal to the number (n) of performances;

b) the control systems defined for the given number (n) of performances (Ax1, Ax2, ..., Axn) having a given number (s) of time intervals and probability levels comprising a maximum probability level (Pmax) of greater than 50% are higher than or coincident with corresponding values of the statistical scenarios calculated on the number (m) of historical series of performances (A1 A2, ..., Am) that have probability levels comprising a higher probability level (Psup) of greater than 50%;

c) the values of the control systems that are defined for the given number (n) of performances (Ax1, Ax2, ..., Axn) having a given number (s) of time intervals and probability levels comprising a minimum probability level (Pmin) of less than 50% are lower than or coincident with corresponding values of the statistical scenarios calculated on the number (m) of historical series of performances (A1 A2, ..., Am) that have probability levels comprising a lower probability level (Pinf) of less than 50%; and

d) the correlation between: (i) the given number (n) of performances (Ax1, Ax2, ..., Axn); and (ii) the last portion of performances of the number (m) of historical series of performances (A1 A2, ..., Am) equal in number to the given number (n) of performances; is equal to the highest possible value.

7. (Currently amended) The method according to claim 5, wherein at each processing of said non-linear programming algorithm where an unacceptable solution is provided under the constraint (e), the value of correlation considered is one less than the highest value given.

8. (Currently amended) The method according to claim 1, wherein said non-linear programming algorithm for identifying global optima is an algorithm implemented in the GLOBSOL software.